

## WHAT IS CLAIMED IS:

1. A routing control system for use in a network having a plurality of nodes, said nodes including a single master node and at least one slave node, said routing control system comprising:

a spanning tree producing portion provided in said master node for producing a spanning tree of said network on the basis of connection information of said network to deliver said spanning tree to each slave node whenever said connection information is received,

a memorizing portion provided in each of said nodes for memorizing said spanning tree delivered from said spanning tree producing portion as a routing table, and

a health check portion provided in each of said nodes for sending said connection information to said spanning tree producing portion when topology change of said network is detected.

2. A routing control system as claimed in Claim 1, wherein said nodes are base stations each of which is connectable to a single computer by radio.

3. A routing control system as claimed in Claim 1, wherein said network can be represented by a simple and undirected graph of a graph theory.

4. A routing control system as claimed in Claim 1, wherein said spanning tree producing portion uses the Dijkstra algorithm to make said spanning tree.

5. A routing control system as claimed in Claim 1, wherein said routing table includes a node number column for said nodes, a port number column for respective nodes, an IP address column for adjacent nodes, an IP address column for respective nodes, a cost column and a connection/disconnection information column.

6. A routing control system as claimed in Claim 1, wherein said health check portion detects fault between the node thereof and an adjacent node directly connected to the node thereof with referring to said routing table memorized in said memorizing portion of the node thereof to detect said topology change of said network.

7. A routing control system as claimed in Claim 6, said health check portion of any slave node transmitting a message signal to said health check portion of said master node when the fault is detected, wherein

said health check portion of said master node broadcasts a request signal on said network when said message signal is received,

said health check portion of each slave node sending said connection information to said spanning tree producing portion in response to said request signal.

8. A routing control system as claimed in Claim 1, wherein said health check portion detects that an additional node is directly connected to the node thereof with referring to said routing table memorized in said memorizing portion of the node thereof to detect said topology change of said network.

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9. A routing control system as claimed in Claim 8, said health check portion of any slave node transmitting a message signal to said health check portion of said master node when the additional node is detected, wherein

said health check portion of said master node broadcasts a request signal on said network when said message signal is received,

said health check portion of each slave node sending said connection information to said spanning tree producing portion in response to said request signal.

10. A routing control system as claimed in Claim 9, said health check portion of each slave node having a plurality of ports directly connected to adjacent nodes, wherein said health check portion of each slave node receives said request signal at one of ports and transmits it from the remaining ports to said adjacent nodes.

11. A routing control system as claimed in Claim 10, said request signal including an ID number, wherein said health check portion discards said request signal with referring to said ID number when it has already received the same request signal.

12. A routing control system as claimed in Claim 9, wherein said health check portion memorizes a port number of said port receiving said request signal to produce said connection information.

13. A routing control system as claimed in Claim 1, wherein said health check portion compares said routing table of the node thereof with that of an adjacent node directly connected to the node thereof to put said routing table into

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a newer state.

14. A routing controller for use in a node of a network comprising:

a spanning tree producing portion for producing a spanning tree of said network on the basis of connection information of said network to deliver said spanning tree to each node of said network whenever said connection information is received,

a memorizing portion connected to said spanning tree producing portion for memorizing said spanning tree as a routing table, and

a health check portion connected to said spanning tree producing portion for supplying said connection information of said network when topology change of said network is detected.

15. A routing controller as claimed in Claim 14, wherein said node is a base station connectable to a single computer by radio.

16. A routing controller as claimed in Claim 14, wherein said network can be represented by a simple and undirected graph of a graph theory.

17. A routing controller as claimed in Claim 14, wherein said spanning tree producing portion uses the Dijkstra algorithm to make said spanning tree.

18. A method of controlling a routing table used in a network having a plurality of nodes, said nodes including a single master node and at least one slave node, comprising the steps of:

producing, at said master node, a spanning tree of said network on the basis of connection information of said network to deliver said spanning tree to each slave node whenever said connection information is received,

memorizing, at each of said nodes, said spanning tree delivered from said spanning tree producing portion as a routing table, and

sending, from a health check portion of any one of nodes, said connection information to said spanning tree producing portion when topology change of said network is detected.

19. A method as claimed in Claim 18, wherein said method further comprising the step of:

comparing, by said health check portion, said routing table of the node thereof, with that of an adjacent node directly connected to the node thereof to put said routing table into a newer state.